



Experiments in meteorology and further developments

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Experiments in meteorology have a tradition of more than 100 years. In the last 50 years, these single activities followed more and more complex experiments. The character and the aim of meteorological experiments were always connected with the development of the measuring technique. About 20-30 years ago, typical column experiments from ground based measurements up to satellites were developed. With the scale analysis the experiments got a horizontal dimension into a meso-scale. In the last years, the number of experiments decreased but the dimension of complexity increased significantly. More and more they are connected with modeling studies, although models do not play an important role in the planning of the experiments. This high degree of complexity allows a simultaneous study of different atmospheric processes. For future experiments, an experimental basis together with the installation of further experimental techniques is important. The preparation of experiments by models should not be underestimated. Meteorological phenomena influence also other experiments in the environment. Unfortunately, ecological experiments and experiments in atmospheric chemistry were only connected with a very limited study of atmospheric processes. To sum up, this paper discusses historical experimental efforts but also future developments of meteorological experiments.